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Applicant:	Kurt E. Schmidt et al.
Serial No.:	09/294,563
Confirmation No.:	6271
Filed:	April 20, 1999
Patent No.:	6895081B1
For:	PREDICTING PERFORMANCE OF TELEPHONE LINES FOR DATA SERVICES
Examiner:	N/A
Art Unit:	N/A

Certificate of Mailing Under 37 CFR 1.8(a)
I hereby certify that this paper (along with any paper referred to as being attached or enclosed) is being deposited with the U.S. Postal Service on the date shown below with sufficient postage as First Class Mail, in an envelope addressed to: Attention: Certificate of Correction Branch, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

Dated: 7/23/07

Christine M. Citro

Attention: Certificate of Correction Branch
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

REQUEST FOR CERTIFICATE OF CORRECTION
PURSUANT TO 37 CFR 1.322

Upon reviewing the above-identified patent, Patentee noted errors in the printed patent, which Patentee respectfully requests should be corrected.

Specifically, Appendix 1 and Appendix 2 referenced in the specification and included with the application as filed were not printed with the issued patent.

To demonstrate that the error and the correction are apparent from the application file, enclosed is a copy of Appendix 1 and Appendix 2 filed with the application. A copy of the transmittal letter for the application indicating that Appendix 1 and Appendix 2 were included with the application is also included. Further, Appendix 1 is referenced in the application as filed and in

the printed patent at Column 4, line 62 and Appendix 2 is referenced in the application as filed in Column 5, line 67 and Column 6, line 1.

The enclosed papers from the prosecution history demonstrate that the information classified as Appendix 1 and Appendix 2, though not printed with the issued patent, were filed with the application.

The requested changes to the printed patent make clear that Appendix 1 and Appendix 2 form a portion of patent 6,895,081 B1. This change does not constitute new matter because the information to be added by this certificate was included with the application as filed. Therefore, no fee is required.

Transmitted herewith is a proposed Certificate of Correction effecting such amendment. Patentee respectfully solicits the granting of the requested Certificate of Correction.

Should any questions arise concerning the foregoing, please contact the undersigned at the telephone number listed below.

The Director is hereby authorized to charge any deficiency in the fees filed, asserted to be filed or which should have been filed herewith (or with any paper hereafter filed in this application by this firm) to our Deposit Account No. 23/2825, under Docket No. T0529.70015US00. A duplicate copy of this paper is enclosed.

Dated: July 23, 2007

Respectfully submitted,

By
Edmund J. Walsh
Registration No.: 32,950
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Federal Reserve Plaza
600 Atlantic Avenue
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UNITED STATES PATENT AND TRADEMARK OFFICE
CERTIFICATE OF CORRECTION

PATENT NO. : 6895081B1

APPLICATION NO. : 09/294,563

ISSUE DATE : May 17, 2005

INVENTOR(S) : Kurt E. Schmidt, David J. Groessl and Yun Zhang

It is certified that an error appears or errors appear in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

In the Specification:

In column 4, line 62, delete “Appendix” and insert therefore --Table--

In column 5, before line 1 insert:

-- Table 1

f_i:
150, 600, 1050, 1500, 1950, 2400, 2850, 3300, 3750, 4200, 4650, 5100, 5550, 6000, 6450, 6900, 7350, 7800, 8250, 8700, 9150, 9600, 10050, 10500, 10950, 11400, 11850, 12300, 12750, 13200, 13650, 14100, 14550, 15000, 15450, 15900, 16350, 16800, 17250, 17700, 18150, 18600, 19050, 19500, 19950.

N:
1, 4, 7, 10, 13, 16, 19, 22, 25, 28, 31, 34, 37, 40, 43, 46, 49, 52, 55, 58, 61, 64, 67, 70, 73, 76, 79, 82, 85, 88, 91, 94, 97, 100, 103, 106, 109, 112, 115, 118, 121, 124, 127, 130, 133 respectively.

φ_i:

5.9738, 1.3564, 2.4683, 4.8575, 4.7434, 2.2972, 4.6015, 1.9156, 2.5660, 4.5986, 4.6452, 3.4542, 3.6341, 0.8848, 4.3410, 2.1606, 4.2342, 4.2147, 3.1058, 5.909, 5.2782, 5.1159, 5.4354, 5.6124, 0.5751, 3.8940, 3.3812, 6.0230, 2.3239, 2.7284, 4.8032, 4.1488, 2.3427, 4.6362, 0.9163, 2.9335, 1.0363, 2.3272, 3.2040, 4.0025, 2.0028, 5.8444, 2.4525, 1.4760, 1.1770--

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In column 5, line 67 delete "Appendix" and insert therefore --Table--.

In column 6, line 1 delete "Appendix" and insert therefore --Table--.

In column 6, following line 3, insert:

--Table 2

30Hz Raw Measurements:
Ytr(30) – Admittance tip-to-ring measured at 30Hz
Ytg(30) – Admittance tip-to-ground measured at 30Hz
Yrg(30) – Admittance ring-to-ground measured at 30Hz

30Hz Derived Measurements:
30Gtr – Conductance tip-to-ring measured at 30Hz = real(Ytr(30))
30Str – Susceptance tip-to-ring measured at 30Hz = imag(Ytr(30))
30Gtg – Conductance tip-to-ground measured at 30Hz = real (Ytg(30))
30Stg – Susceptance tip-to-ground measured at 30Hz = imag(Yt(30))
30Ctr – Capacitance tip-to-ring measured at 30Hz = Str(30)/(2*pi*30)
30Ctg – Capacitance tip-to-ground measured at 30Hz = St(30)/(2*p_i*30)
Lmeas – Length in kft measured at 30Hz = 30Ctg/17.47

150Hz-20KHz Raw Measurements:
Ytr(f) – Admittance tip-to-ring where f=150Hz,600Hz,1050Hz, 1500Hz,...19950Hz
Ytg(f) – Admittance tip-to-ground where =150Hz, 600Hz, 1050Hz, 1500Hz....19950Hz
Yrg(f) – Admittance ring-to-ground where f = 150Hz, 600Hz, 1050Hz, 1500Hz,...19950Hz

150Hz-20KHz Derived Measurements:
150Gtr – Conductance tip-to-ring measured at 150HZ = real(Ytr(150))
600Gtr – Conductance tip-to-ring measured at 600Hz = real(Ytr(600))

19950Gtr – Conductance tip-to-ring measured at 19950Hz = real Ytr(19950))

150Str – Susceptance tip-to-ring measured at 150Hz = imag(Ytr(150))
600Str – Susceptance tip-to-ring measured at 600Hz = imag(Ytr(600))

19950Str – Susceptance tip-to-ring measured at 19950Hz = imag(Ytg(19950))

150Gtg – Conductance tip-to-ground measured at 150Hz = real(Ytg(150))
600Gtg – Conductance tip-to- ground measured at 600Hz = real (Ytg (600)

19950Gtg – Conductance tip-to-ground measured at 19950Hz = real (Ytg(19950))

150Stg – Susceptance tip-to-ground measured at 150Hz = imag(Ytg(150))
600Stg – Susceptance tip-to-ground measured at 600Hz = imag(Ytg(600))

19950Stg – Susceptance tip-to-ground measured at 19950Hz = imag(Ytg(19950))

150Ctr – Capacitance tip-to-ring measured at 150Hz = 150Str/(2*pi*150)

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600 Ctr – Capacitance tip-to-ring measured at 600Hz = 600Str/(2*pi*600)

19950Ctr – Capacitance tip-to-ring measured at 19950Hz = 9950Str/(2*pi*19950)

150Ctg – Capacitance tip-to-ground measured at 150Hz = 150Stg/(2*pi*150)
600Ctg – Capacitance tip-to-ground measured at 600Hz = 600Stg/(2*pi*600)

19950Ctg – Capacitance tip-to-ground measured at 19950Hz = 19950Stg/(2*pi*19950)

150Hz-20KHz Secondary Derived Measurements:

C30/C4K – Ratio of tip-to-ground Capacitance at 30Hz to 4200Hz
C4K/Cl0K – Ratio of tip-to-ground Capacitance at 4200Hz to 10050Hz
Cslope – Tip-to-ground Capacitance ratio slope = (C4K/C10K)/(C30/C4K)
C30-C4K – Difference in tip-to-ground Capacitance at 30Hz and 4200Hz
C4K-C10K – Difference in top-to-ground Capacitance at 4200Hz and 10050Hz
Cdelta– Tip-to-ground Capacitance difference delta = (C4K-C10K)/(C30-C4K)

G4K-G30 – Ratio of tip-to-ground Conductance at 4200Hz and 30Hz
G10K-G4K – Ratio in tip-to-ground Conductance at 10050Hz and 4200Hz
Gslope– Tip-to ground Conductance ratio slope = (G10K/G4K) /(G4K/G30)
G4K-G30 – Difference in tip-to-ground Conductance at 30Hz and 4200Hz
G10K-G4K – Difference in tip-to-ground Conductance at 4200Hz and 10050Hz
Gdelta – Tip-to-ground Conductance difference delta = (G10K-G4K)/(G4K-G30)

C30/G30 – Ratio of Tip-to-ground Capacitance to Conductance at 30Hz
C30/G4K – Ratio of Tip-to-ground Capacitance at 30Hz to Conductance at 4200Hz
C4K/G4K – Ratio of Tip-to-ground Capacitance to Conductance at 4200Hz

Gtr_dmax – Maximum positive slope of Gtr(f) = max(derivative(Gtr(f)/df))
Gtr_fmax – Frequency at which Gtr_dmax occurs
Gtr_dmin – Maximum negative slope of Gtr(f) = min(derivative(Gtr(f)/df))
Gtr_fmin – Frequency at which Gtr_dmin occurs
Gtr_fpk – Frequency of first peak (local maxima)in Gtr(f)
Gtr-fval – Frequency of first valley(local minima)in Gtr(f)
Gtr_d_delta – Gtr Max/Min Derivative difference = Gtr_dmax-Gtr_dmin
Gtr_pk_delta – Gtr peak/valley frequency difference = Gtr_fval-Gtr_fpk
Gtr_pk – Value of Gtr(f) at frequency Gtr_fpk
Gtr_val – Value of Gtr(f) at frequency Gtr_fval
Gtr_delta – Gtr peak/valley difference = Gtr_pk-Gtr_val

Gtg dmax – Maximum positive slope of Gtg(f) = max(derivative(Gtg(f)/df))
Gtg_fmax – Frequency at which Gtg_dmax occurs
Gtg dmin – Maximum negative slope of Gtg(f) = min(derivative(Gtg(f)/df))
Gtg_fmin – Frequency at which Gtg_dmin occurs
Gtg_d_delta – Gtg Max/Min Derivative difference = Gtg_dmax-Gtg_dmin

Ctr_dmax – Maximum positive slope of Ctr(f) = max(derivative(Ctr(f)/df))
Ctr_fmax – Frequency at which Ctr_dmax occurs
Ctr_dmin – Maximum negative slope of Ctr(f) = min(derivative(Ctr(f)/df))

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Ctr_fmin – Frequency at which Ctr_dmin occurs
Ctr_fpk – Frequency of first peak (local maxima)in Ctr(f)
Ctr_fval – Frequency of first valley(local minima)in Ctr(f)
Ctr_d_delta – Ctr Max/Min Derivative difference = Ctr_dmax-Ctr_dmin
Ctr_pk_delta – Ctr peak/valley frequency difference = Ctr_fval-Ctr_fpk
Ctr_val – Value of Ctr(f) at frequency Ctr_fval

Ctg_dmax – Maximum positive slope of Ctg(f) = max(derivative(Ctg(f)/df))
Ctg_fmax – Frequency at which Ctg_dmax occurs
Ctg_dmin – Maximum negative slope of Ctg(f) = min(derivative(Ctg(f)/df))
Ctg_fmin – Frequency at which Ctg_dmin occurs
Ctg_d_delta – Ctg Max/Min Derivative difference = Ctg_dmax-Ctg_dmin

Str_dmax – Maximum positive slope of Str(f) = max(derivative(Str(f)/df))
Str_fmax – Frequency at which Str_dmax occurs
Str_dmin – Maximum negative slope of Str(f) = min(derivative(Str(f)/df))
Str_fmin – Frequency at which Str_dmin occurs

150Hz-20Hz Secondary Derived Measurements:

Str_fpk – Frequency of first peak (local maxima)in Str(f)
Str_fval – Frequency of first valley(local minima)in Str(f)
Str_d_delta – Str Max/Min Derivative difference = Str_dmax-Str_dmin
Str_pk_delta – Str peak/valley frequency difference = Str_fval-Str_fpk
Str_pk – Value of Str(f) at frequency Str_fpk
Str_val – Value of Str(f) at frequency Str_fval
Str_delta – Str peak/valley difference = Str_pk_Str_val

Stg_dmax – Maximum positive slope of Stg(f) = max(derivative (Stg(f)/df))
Stg_fmax – Frequency at which Stg_dmax occurs
Stg_dmin – Maximum negative slope of Stg(f) = min(derivative (Stg(f)df))
Stg_fmin – Frequency at which Stg_dmin occurs
Stg_fpk – Frequency of first peak (local maxima)in Stg(f)
Stg_fval – Frequency of first valley(local mixima)in Stg(f)
Stg_d_delta – Stg Max/Min Derivative difference = Stg_dmax-Stg_dmin
Stg_pk_delta – Stg peak/valley frequency difference = Stg_fval-Stg_fpk

Gtg20k/Gtg8k – Ratio of Gtg at 19950Hz and 8250Hz
Gtg20k/Gtg4k – Ratio of Gtg at 19950Hz and 4200Hz
Cgt30/Cgt20k – Ratio of Ctg at 30Hz and 19950Hz
Cgt30/Cgt8k – Ratio of Ctg at 30Hz and 8250Hz--

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April 20, 1999

Attorney Docket No.: **08640/018001**

Box Patent Application
Assistant Commissioner for Patents
Washington, DC 20231

BOSTON
NEW YORK
SILICON VALLEY
SOUTHERN CALIFORNIA
TWIN CITIES
WASHINGTON, DC

Presented for filing is a new original patent application of:

Applicant:	KURT E. SCHMIDT, DAVID J. GROESSL AND YUN ZHANG
Title:	PREDICTING PERFORMANCE OF TELEPHONE LINES FOR DATA SERVICES

Enclosed are the following papers, including those required to receive a filing date under 37 CFR §1.53(b):

	Pages
Specification	21
Claims	12
Abstract	1
Appendix 1	2
Appendix 2	4
Declaration	2
Drawing(s)	14

Enclosures:

- Postcard.

"EXPRESS MAIL" Mailing Label Number EL245467840US

Date of Deposit April 20, 1999

I hereby certify under 37 CFR 1.10 that this correspondence is being deposited with the United States Postal Service as **"Express Mail Post Office To Addressee"** with sufficient postage on the date indicated above and is addressed to the Assistant Commissioner for Patents, Washington, D.C. 20231.

Misty Cioffi

Kristy Cioffi

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Basic filing fee	760.00
Total claims in excess of 20 times $18.00	576.00
Independent claims in excess of 3 times $78.00	468.00
Fee for multiple dependent claims	0.00
Total filing fee:	$ 1,804.00

A check for the filing fee is enclosed. Please apply any other required fees or any credits to deposit account 06-1050, referencing the attorney docket number shown above.

If this application is found to be incomplete, or if a telephone conference would otherwise be helpful, please call the undersigned at 617/542-5070.

Kindly acknowledge receipt of this application by returning the enclosed postcard.

Please send all correspondence to:

Richard M. Sharkansky
Fish & Richardson P.C.
225 Franklin Street
Boston, MA 02110-2804

Respectfully submitted,

Richard M. Sharkansky
Reg. No. 25,800
Enclosures

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APPENDIX 1
FOR APPLICATION

FOR

UNITED STATES LETTERS PATENT

TITLE: PREDICTING PERFORMANCE OF TELEPHONE LINES FOR DATA SERVICES

APPLICANT: KURT E. SCHMIDT, DAVID J. GROESSL AND YUN ZHANG

"EXPRESS MAIL" Mailing Label Number EL245467840US

Date of Deposit April 20, 1999

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Kristy Cioffi

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Appendix 1

f:

150, 600, 1050, 1500, 1950, 2400, 2850, 3300, 3750, 4200, 4650, 5100, 5550, 6000, 6450, 6900, 7350, 7800, 8250, 8700, 9150, 9600, 10050, 10500, 10950, 11400, 11850, 12300, 12750, 13200, 13650, 14100, 14550, 15000, 15450, 15900, 16350, 16800, 17250, 17700, 18150, 18600, 19050, 19500, 19950.

N: 1, 4, 7, 10, 13, 16, 19, 22, 25, 28, 31, 34, 37, 40, 43, 46, 49, 52, 55, 58, 61, 64, 67, 70, 73, 76, 79, 82, 85, 88, 91, 94, 97, 100, 103, 106, 109, 112, 115, 118, 121, 124, 127, 130, 133 respectively.

φ_{ij}: 5.9738, 1.3564, 2.4683, 4.8575, 4.7424, 2.2972, 4.6015, 1.9156, 2.5660, 4.5986, 4.6452, 3.4542, 3.6341, 0.8848, 4.3410, 2.1606, 4.2342, 4.2147, 3.1058, 5.9049, 5.2782, 5.1159, 5.4354, 5.6124, 0.5751, 3.8940, 3.3812, 6.0230, 2.3239, 2.7284, 4.8032, 4.1488, 2.3427, 4.6362, 0.9163, 2.9335, 1.0363, 2.3272, 3.2040, 4.0025, 2.0028, 5.8444, 2.4525, 1.4760, 1.1770

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APPENDIX 2
FOR APPLICATION

FOR

UNITED STATES LETTERS PATENT

TITLE: PREDICTING PERFORMANCE OF TELEPHONE LINES FOR DATA SERVICES

APPLICANT: KURT E. SCHMIDT, DAVID J. GROESSL AND YUN ZHANG

"EXPRESS MAIL" Mailing Label Number EL245467840US

Date of Deposit April 20, 1999

I hereby certify under 37 CFR 1.10 that this correspondence is being deposited with the United States Postal Service as **"Express Mail Post Office To Addressee"** with sufficient postage on the date indicated above and is addressed to the Assistant Commissioner for Patents, Washington, D.C. 20231.

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Kristy Cioffi

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Appendix 2

30Hz Raw Measurements:

Ytr(30) - Admittance tip-to-ring measured at 30Hz
Ytg(30) - Admittance tip-to-ground measured at 30Hz
Yrg(30) - Admittance ring-to-ground measured at 30Hz

30Hz Derived Measurements:

30Gtr - Conductance tip-to-ring measured at 30Hz = real(Ytr(30))
30Str - Susceptance tip-to-ring measured at 30Hz = imag(Ytr(30))
30Gtg - Conductance tip-to-ground measured at 30Hz = real(Ytg(30))
30Stg - Susceptance tip-to-ground measured at 30Hz = imag(Yt(30))
30Ctr - Capacitance tip-to-ring measured at 30Hz = Str(30)/(2*pi*30)
30Ctg - Capacitance tip-to-ground measured at 30Hz = St(30)/(2*pi*30)
Lmeas - Length in kft measured at 30Hz = 30Ctg/17.47

150Hz-20KHz Raw Measurements:

Ytr(f) - Admittance tip-to-ring where f=150Hz,600Hz,1050Hz,1500Hz,...19950Hz
Ytg(f) - Admittance tip-to-ground where f=150Hz,600Hz,1050Hz,1500Hz,...19950Hz
Yrg(f) - Admittance ring-to-ground where f=150Hz,600Hz,1050Hz,1500Hz,...19950Hz

150Hz-20KHz Derived Measurements:

150Gtr - Conductance tip-to-ring measured at 150Hz = real(Ytr(150))
600Gtr - Conductance tip-to-ring measured at 600Hz = real(Ytr(600))
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.
19950Gtr - Conductance tip-to-ring measured at 19950Hz = real(Ytr(19950))

150Str - Susceptance tip-to-ring measured at 150Hz = imag(Ytr(150))
600Str - Susceptance tip-to-ring measured at 600Hz = imag(Ytr(600))
.
.
19950Str - Susceptance tip-to-ring measured at 19950Hz = imag(Ytg(19950))

150Gtg - Conductance tip-to-ground measured at 150Hz = real(Ytg(150))
600Gtg - Conductance tip-to- ground measured at 600Hz = real(Ytg(600))
.
.
19950Gtg - Conductance tip-to- ground measured at 19950Hz = real(Ytg(19950))

150Stg - Susceptance tip-to- ground measured at 150Hz = imag(Ytg(150))
600Stg - Susceptance tip-to- ground measured at 600Hz = imag(Ytg(600))
.
.
19950Stg - Susceptance tip-to- ground measured at 19950Hz = imag(Ytg(19950))

150Ctr - Capacitance tip-to-ring measured at 150Hz = 150Str/(2*pi*150)
600Ctr - Capacitance tip-to-ring measured at 600Hz = 600Str/(2*pi*600)
.
.
19950Ctr - Capacitance tip-to-ring measured at 19950Hz = 19950Str/(2*pi*19950)

150Ctg - Capacitance tip-to-ground measured at 150Hz = 150Stg/(2*pi*150)
600Ctg - Capacitance tip-to-ground measured at 600Hz = 600Stg/(2*pi*600)
.
.
19950Ctg - Capacitance tip-to-ground measured at 19950Hz = 19950Stg/(2*pi*19950)

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150Hz-20KHz Secondary Derived Measurements:

C30/C4K - Ratio of tip-to-ground Capacitance at 30Hz to 4200Hz
C4K/C10K - Ratio of tip-to-ground Capacitance at 4200Hz to 10050Hz
Cslope - Tip-to-ground Capacitance ratio slope = (C4K/C10K)/(C30/C4K)
C30-C4K - Difference in tip-to-ground Capacitance at 30Hz and 4200Hz
C4K-C10K - Difference in tip-to-ground Capacitance at 4200Hz and 10050Hz
Cdelta - Tip-to-ground Capacitance difference delta = (C4K-C10K)/(C30-C4K)

G4K/G30 - Ratio of tip-to-ground Conductance at 4200Hz to 30Hz
G10K/G4K - Ratio of tip-to-ground Conductance at 10050Hz to 4200Hz
Gslope - Tip-to-ground Conductance ratio slope = (G10K/G4K)/(G4K/G30)
G4K-G30 - Difference in tip-to-ground Conductance at 30Hz and 4200Hz
G10K-G4K - Difference in tip-to-ground Conductance at 4200Hz and 10050Hz
Gdelta - Tip-to-ground Conductance difference delta = (G10K-G4K)/(G4K-G30)

C30/G30 - Ratio of Tip-to-ground Capacitance to Conductance at 30Hz
C30/G4K - Ratio of Tip-to-ground Capacitance at 30Hz to Conductance at 4200Hz
C4K/G4K - Ration of Tip-to-ground Capacitance to Conductance at 4200Hz

Gtr_dmax - Maximum positive slope of Gtr(f) = max(derivative(Gtr(f)/df))
Gtr_fmax - Frequency at which Gtr_dmax occurs
Gtr_dmin - Maximum negative slope of Gtr(f) = min(derivative(Gtr(f)/df))
Gtr_fmin - Frequency at which Gtr_dmin occurs
Gtr_fpk - Frequency of first peak (local maxima)in Gtr(f)
Gtr_fval - Frequency of first valley(local minima)in Gtr(f)
Gtr_d_delta - Gtr Max/Min Derivative difference = Gtr_dmax-Gtr_dmin
Gtr_pk_delta - Gtr peak/valley frequency difference = Gtr_fval-Gtr_fpk
Gtr_pk - Value of Gtr(f) at frequency Gtr_fpk
Gtr_val - Value of Gtr(f) at frequency Gtr_fval
Gtr_delta - Gtr peak/valley difference = Gtr_pk-Gtr_val

Gtg_dmax - Maximum positive slope of Gtg(f) = max(derivative(Gtg(f)/df))
Gtg_fmax - Frequency at which Gtg_dmax occurs
Gtg_dmin - Maximum negative slope of Gtg(f) = min(derivative(Gtg(f)/df))
Gtg_fmin - Frequency at which Gtg_dmin occurs
Gtg_d_delta - Gtg Max/Min Derivative difference = Gtg_dmax-Gtg_dmin

Ctr_dmax - Maximum positive slope of Ctr(f) = max(derivative(Ctr(f)/df))
Ctr_fmax - Frequency at which Ctr_dmax occurs
Ctr_dmin - Maximum negative slope of Ctr(f) = min(derivative(Ctr(f)/df))
Ctr_fmin - Frequency at which Ctr_dmin occurs
Ctr_fpk - Frequency of first peak (local maxima)in Ctr(f)
Ctr_fval - Frequency of first valley(local minima)in Ctr(f)
Ctr_d_delta - Ctr Max/Min Derivative difference = Ctr_dmax-Ctr_dmin
Ctr_pk_delta - Ctr peak/valley frequency difference = Ctr_fval-Ctr_fpk
Ctr_val - Value of Ctr(f) at frequency Ctr_fval

Ctg_dmax - Maximum positive slope of Ctg(f) = max(derivative(Ctg(f)/df))
Ctg_fmax - Frequency at which Ctg_dmax occurs
Ctg_dmin - Maximum negative slope of Ctg(f) = min(derivative(Ctg(f)/df))
Ctg_fmin - Frequency at which Ctg_dmin occurs
Ctg_d_delta - Ctg Max/Min Derivative difference = Ctg_dmax-Ctg_dmin

Str_dmax - Maximum positive slope of Str(f) = max(derivative(Str(f)/df))
Str_fmax - Frequency at which Str_dmax occurs
Str_dmin - Maximum negative slope of Str(f) = min(derivative(Str(f)/df))
Str_fmin - Frequency at which Str_dmin occurs

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150Hz-20KHz Secondary Derived Measurements:

Str_fpk - Frequency of first peak (local maxima)in Str(f)
Str_fval - Frequency of first valley(local minima)in Str(f)
Str_d_delta - Str Max/Min Derivative difference = Str_dmax-Str_dmin
Str_pk_delta - Str peak/valley frequency difference = Str_fval-Str_fpk
Str_pk - Value of Str(f) at frequency Str_fpk
Str_val - Value of Str(f) at frequency Str_fval
Str_delta - Str peak/valley difference = Str_pk-Str_val

Stg_dmax - Maximum positive slope of Stg(f) = max(derivative(Stg(f)/df))
Stg_fmax - Frequency at which Stg_dmax occurs
Stg_dmin - Maximum negative slope of Stg(f) = min(derivative(Stg(f)/df))
Stg_fmin - Frequency at which Stg_dmin occurs
Stg_fpk - Frequency of first peak (local maxima)in Stg(f)
Stg_fval - Frequency of first valley(local minima)in Stg(f)
Stg_d_delta - Stg Max/Min Derivative difference = Stg_dmax-Stg_dmin
Stg_pk_delta - Stg peak/valley frequency difference = Stg_fval-Stg_fpk

Gtg20k/Gtg8k - Ratio of Gtg at 19950Hz and 8250Hz
Gtg20k/Gtg4k - Ratio of Gtg at 19950Hz and 4200Hz
Cgt30/Cgt20k - Ratio of Ctg at 30Hz and 19950Hz
Cgt30/Cgt8k - Ratio of Ctg at 30Hz and 8250Hz

AUG 1 2007